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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,985	06/09/2005	Erik Visser	SOFTM.011NP	1378
20995	7590	04/13/2007	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			STORM, DONALD L	
			ART UNIT	PAPER NUMBER
			2626	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/13/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/537,985	VISSER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Donald L. Storm	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 05 March 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-27,39,40,42-51 and 55-65 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-9,15-17,23,25 and 26 is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 10-14,18-22,24,27,39,40,42-51 and 55-65 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 05 March 2007 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Allowable Subject Matter*

2. Claims 1-9, 15-17, 23, and 25-26 are allowed.

### *Priority*

3. It is noted that the amendment filed March 5, 2007 causes this application to contain a specific reference to U.S. provisional application number 60/432,691 as the first sentence of the specification in order to rely on the filing date of the prior application under 35 U.S.C. 119.

### *Response to Amendment*

4. The amendment to the specification, filed March 5, 2007, is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. The 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The Applicant is required to cancel the new matter in the reply to this Office action.

The added material that is not supported by the original disclosure is as follows: "The disclosures of the above-described applications are hereby incorporated by reference in their entirety."

An incorporation by reference statement added after an application's filing date is not effective because no new matter can be added to an application after its filing date. See MPEP § 608.01(p)(I)(B).

***Drawings***

5. The proposed substitute drawings (2 sheet(s), received March 5, 2007) are present and are now the Figs. 8, 9, and 10 of record. These drawing sheets are substantively acceptable to the Examiner.

***Claim Informalities***

6. Claim 10, and by dependency claim 11, are objected to under 37 CFR 1.75(a) because the meaning of the phrase "containing the separated desired speech signal" (lines 2-3) needs clarification. Because it was not previously recited that the output channels contain audio signals or speech signals, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --comprising the separated desired speech signal--.

7. Claim 12, and by dependency claims 13-14, are objected to under 37 CFR 1.75(a) because the meaning of the phrase "the separated output signals" (line 2) needs clarification. Because no separated output signals were previously recited, it may be unclear as to what element this phrase refers. The recitation of separating input signals clouds what is meant by separated output channels. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the output signals--.

8. Claim 18 is objected to because the manner of making amendments is not in accordance with 37 CFR 1.121. For amendment to claims, 37 CFR 1.121(c)(2) requires that markings indicate the changes that have been made relative to the immediate prior version of the claims. See MPEP § 714(II)(C).

In the Applicant's current amendment to claim 18, markings do not show added subject matter, which is dependency to claim 1, and do not show text of deleted dependency to claim 18. To advance prosecution, the Applicant's entire response has been entered, including amended claim 18.

9. Claim 19, and by dependency claim 20, are objected to under 37 CFR 1.75(a) because the meaning of the phrase "the noise output signal" (line beginning with *microphone*) needs clarification. Because no one, particular noise output signal was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the one or more noise output signals--.

10. Claim 21 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the first adaptive ICA filter" (lines 3-4) needs clarification. Because no filter was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --a first adaptive ICA filter--.

11. Claim 21 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the second adaptive ICA filter" (lines 6-7) needs clarification. Because no filter was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --a second adaptive ICA filter--.

12. Claim 21 is objected to as failing to define the invention with the clarity required by 37 CFR 1.75(a). The body of the claim contains at least two unconnected elements. Neither are the further limitations of dependent claim 21 related to the functionality set forth in the preamble, inherited from claim 1. The adaptive filters and stabilizing a learning rule are unconnected to

anything else related to the method, and they produce no result. The body of the claim, which incorporates all of the limitations of claim 1 by dependency, borders on being just a list of unrelated parts. The lack of relationship between the ICA filters and the noise output signals, the desired audio signals, and the desired speech signal that is recited in claim 1 omits any structural cooperative relationships of the claim elements. It amounts to an ambiguous gap between necessary structural connections. See MPEP § 2172.01 for examples. The Examiner suggests that the Applicant consider returning dependency of this claim to depend from claim 18 or otherwise to include much of the subject matter of claim 18.

13. Claim 22 is objected to under 37 CFR 1.75(a) because the meaning of the phrase “the filter weights of the first adaptive ICA cross” (lines 1-2) needs clarification. Because no weights and no cross were previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --filter weights of a first adaptive ICA filter--.

14. Claim 22 is objected to under 37 CFR 1.75(a) because the meaning of the phrase “the filter weights of the second adaptive ICA cross” (line 3) needs clarification. Because no weights and no cross were previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --filter weights of a second adaptive ICA filter--.

15. Claim 22 is objected to as failing to define the invention with the clarity required by 37 CFR 1.75(a). The body of the claim contains at least two unconnected elements. Neither are the further limitations of dependent claim 22 related to the functionality set forth in the preamble, inherited from claim 1. The first and second adaptive ICA crosses are unconnected to anything

else related to the method, and they produce no result. The body of the claim, which incorporates all of the limitations of claim 1 by dependency, borders on being just a list of unrelated parts. The lack of relationship between the ICA crosses and the noise output signals, the desired audio signals, and the desired speech signal that is recited in claim 1 omits any structural cooperative relationships of the claim elements. It amounts to an ambiguous gap between necessary structural connections. See MPEP § 2172.01 for examples. The Examiner suggests that the Applicant consider returning dependency of this claim to depend from claim 18 or otherwise to include much of the subject matter of claim 18.

16. Claim 24 is objected to under 37 CFR 1.75(a) because the meaning of the phrase “the adaptive ICA filters” (line 4) needs clarification. Because no filters were previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --adaptive ICA filters--.

17. Claim 27 is objected to under 37 CFR 1.75(a) because the meaning of the phrase “input signals from at a third microphone” (line 2) needs clarification. Is the claim complete or is a word or phrase missing? To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --input signals at a third microphone--.

18. Claim 39, and by dependency claims 40, 42-51, and 55-65, are objected to under 37 CFR 1.75(a) because the meaning of the phrase “the at least one ICA or BSS filter” (line 10) needs clarification. Because not more than one ICA or BSS filter was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the at least one ICA or BSS filter module--.

19. Claim 56 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the noise output signal" (line 2) needs clarification. Because no noise output signal was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the noise output signal line--.

20. Claim 56 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the desired speech output signal" (line 2) needs clarification. Because no desired speech output signal was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the desired speech output signal line--.

21. Claim 58 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the acoustic sound signals" (line 2) needs clarification. Because acoustic signals were previously recited as received, but sound signals were previously recited as received from microphones, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --the sound signals--.

22. Claim 59 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the other microphone" (line 2) needs clarification. Because no other microphone was previously recited and microphones were not previously limited to two, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --another microphone--.

***Response to Arguments***

23. The prior Office action, mailed October 31, 2006, objects to the title and claims, and rejects claims under 35 USC § 102, and § 103. The Applicant's arguments and changes in the response, filed March 5, 2007, have been fully considered with the following results.

24. With respect to objection to the title, the changes entered by amendment are sufficiently descriptive. Accordingly, the objection is removed.

25. With respect to objection to those claims needing clarification, the changes entered by amendment are not sufficiently descriptive. The Applicant's amendments and remarks have been fully considered but the current claims 10, 12, 14, 19, 21, 22, 24, 27, 39, 56, 58, and 59 do not clearly describe the claimed subject matter. Accordingly, some objections are maintained. Those objections that remain are repeated elsewhere in this Office action. Also, please see new grounds of objection. The objections of the previous Office action to claims other than those objected above are removed.

26. With respect to objection to the claims dependent upon rejected base claims, rejections of the base claims have been removed or the claims have been canceled. Accordingly, the objections are removed.

27. With respect to rejection of claims under 35 USC § 102 and § 103, the changes entered by amendment include subject matter previously indicated as allowable in the current independent claims or the claims have been canceled. Accordingly, the rejections are removed.

***Conclusion***

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

29. Any response to this action may be mailed to:

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P.O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:**

(571) 273-8300, (please mark "EXPEDITED PROCEDURE"; for formal communications and for informal or draft communications, additionally marked "INFORMAL" or "DRAFT")

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30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Division 2626, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 7:00 AM and 3:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Donald L. Storm*  
DONALD L. STORM  
PRIMARY PATENT EXAMINER

April 5, 2007